



Applicant: Mixer  
Serial No: 09/688,268  
Title: A METHOD AND APPARATUS FOR USING PRINT JOBS FOR DOWNLOADING AND EXECUTING PRINTER CONTROLLER CODE  
Filed: October 13, 2000  
Examiner: James D. Rutten  
Art Unit: 2122  
Docket No.: BLD9-2000-058US1  
Confirmation No.: 9896  
Customer No.: 27,623

**DECLARATION OF J. BRUCE MIXER JR.**

Mail Stop Amendment  
Commissioner for Patents

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P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Commissioner:

I, J. BRUCE MIXER JR., declare and state as follows:

1. I am a United States citizen residing at 2428 Maplewood Circle West, Longmont, CO 80503.
2. I have received a Bachelor of Science in Electrical Engineering (1984) from the Pennsylvania State University and a Master of Science in Computer Engineering from Syracuse University (1991).
3. I have been employed by IBM Corporation since 1984 having responsibilities in hardware and software design. In particular, I have been a Test Engineer, a Hardware Design Engineer, and a Software Design Engineer.
4. I have carefully read US patent no. 4,095,277 to Bluethman et al. (Bluethman) and US patent no. 5,659,801 to Kopsaftis (Kopsaftis). The most recent Office Action that I have received in this application has used these patents in order to reject claims 38, 39, 41-46, 50, 52, 57-60, 64, 65 and 70 as obvious.

5. I find that Bluethman describes a way of including printer commands in a printer file. Some print commands Bluethman includes in files are "print", "modify", "margin left", "adjust" and "first line". These commands are separated in the file from print data by introducing them with the EBCDIC character sequence "line end" - "comma". After a first command, additional commands are introduced by the EBCDIC characters "line end" or "underscore", and a series of commands is terminated by the EBCDIC character "page end" or the character sequence "line end" - "comma"- "E"- "N"- "D". The commands included in this manner are only for controlling printing and formatting text. This is described in the "Summary of the Invention".

6. Bluethman uses these unusual EBCDIC sequences because the communicating devices and interfaces in this invention, first, require that transmission be coded in EBCDIC, and second, reserve certain EBCDIC sequences for their own protocol uses. These particular sequences have been chosen because they are unusual in normal text and can thus be required to be entirely absent from text with little penalty. This is explained in the "Background of the Invention" and also in the "Summary of the Invention".

7. Bluethman's method of including commands in printer files cannot be used or modified to include printer microcode in printer files for the printers of this invention. This is simply because printer microcode and print data can contain any possible bit combination. Therefore, reserving certain arbitrary bit combinations for delimiters and then requiring that the reserved bit combinations be entirely absent from microcode and print data, as is required by Bluethman's method, is simply not feasible or acceptable.

8. Further, I find that the device described and illustrated in the bulk of Bluethman's "Detailed Description" has no internal microcode at all. Bluethman's device is entirely "hardwired" as can be understood from Fig. 2 and the description in Col. 2 at Lines 28-50. The internal operations of this device are entirely controlled by permanently connected electronic circuits, not by microcode. Therefore, the print commands included in print files cannot be considered microcode. Furthermore, the inventors of the Bluethman patent would have no reason at all to include microcode in print files, or to chose methods of including printer commands that could also be used to include microcode. In fact, I can find no technical teachings concerning printers or printer microcode in this reference.

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9. Next, I find that Kopsaftis describes a way of transferring new disk microcode to a disk device attached to a SCSI bus interface. This method uses a sequence of two specially crafted write-verify disk commands that are described in the "Detailed Description" at Cols. 6-7 at Lines 61-16 and are illustrated in Fig. 5. The write-verify commands that transfer disk microcode are special, and unlike ordinary write-verify commands, first, because they write to a disk block, block 96, that should never be written to in normal disk operation. Second, they specify write data, the characters "E"- "M"- "C"- "<sup>2</sup>", that would only rarely be written to that disk block in any case. Again, I can find no technical teachings concerning printer microcode in this reference either, and I see no reason why the inventors of this reference would seek to make their methods adaptable to printers.

10. Kopsaftis' method of transferring disk microcode also cannot be used or modified to include printer microcode in printer files. First, printers have no write-verify commands or other disk-like commands; and they have no disk blocks, and certainly no special disk blocks, such as a block 96, that are not normally written to. And as with Bluethman's method, since printer microcode and print data can contain any possible bit combination, reserving certain bit combinations, such as "E"- "M"- "C"- "<sup>2</sup>", only for special uses, and thus not available for microcode or print data, is simply not feasible or acceptable. For these reasons, Kopsaftis' method could not be modified to work for the printers of this invention.

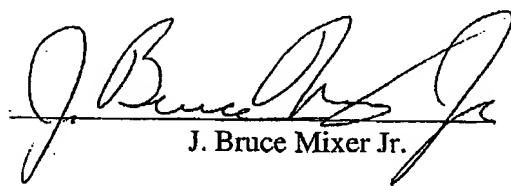
11. Further, I wish to remark that disk drives and printers are very different types of computer devices. They are not analogous or similar devices, and are certainly not so from the point of view of their resident microcode (which controls the details of their internal operations). Some differences include the following: they obviously have different purposes and thus have different command sets; they have very different transfer rates; they have different interface requirements and are linked to host computers using different types of interfaces; also they are treated differently by the operating system and by application programs. In my experience, there would be no reason to expect that what works for disk microcode also works for printer microcode. Accordingly, I do not believe there would be any reason in advance to expect that what works for transferring microcode to disk drives, such as Kopsaftis' method, would also work for transferring microcode to printers. It would be necessary to actually write and test the resulting microcode.

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12. I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Dated: 2/10/05



J. Bruce Mixer Jr.